

# *Air Quality Update*

**Board Presentation  
December 9, 2004**

# ***Today's Presentation***

- ◆ **2004 air quality status**
- ◆ **Focus on Federal 1-hour ozone and PM10 standards**
  - Compare with previous years
  - Review of weather
- ◆ **Transition to new Federal standards**
- ◆ **Progress toward State standards**

*2004*

**OZONE AIR QUALITY**

*Federal 1-Hour Standard*

## ***2004 Snapshot***

- ◆ **Dramatic improvements statewide compared with last year**
- ◆ **Coastal districts continued to meet standard**
- ◆ **Sacramento Region now close to attainment**

## ***Statewide Look at 2004***

- ◆ **Fewest exceedance days ever in South Coast and San Joaquin Valley**
- ◆ **No days exceeding standard in Bay Area and Sacramento Region**
- ◆ **Lower peak concentrations in most areas of California**

# ***Recent Trend in Northern California***

<i><b>Number of Days Exceeding Federal 1-Hour Ozone Standard</b></i>				
	<i><b>2001</b></i>	<i><b>2002</b></i>	<i><b>2003</b></i>	<i><b>2004*</b></i>
<b>San Joaquin Valley</b>	<b>32</b>	<b>31</b>	<b>37</b>	<b>9</b>
<b>Sacramento Metro Area</b>	<b>3</b>	<b>10</b>	<b>6</b>	<b>0</b>
<b>San Francisco Bay Area</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>0</b>

\* 2004 data are preliminary and reflect data collected through November 30, 2004.

# *Recent Trend in Southern California*

	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004*</i>
<b>South Coast</b>	<b>36</b>	<b>45</b>	<b>64</b>	<b>27</b>
<b>Mojave Desert</b>	<b>6</b>	<b>16</b>	<b>13</b>	<b>4</b>
<b>San Diego</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>0</b>
<b>Ventura</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>0</b>

\* 2004 data are preliminary and reflect data collected through November 30, 2004.

# ***Highlighted Districts***

- ◆ **South Coast**
- ◆ **San Joaquin Valley**
- ◆ **Sacramento Region**
- ◆ **San Francisco Bay Area**

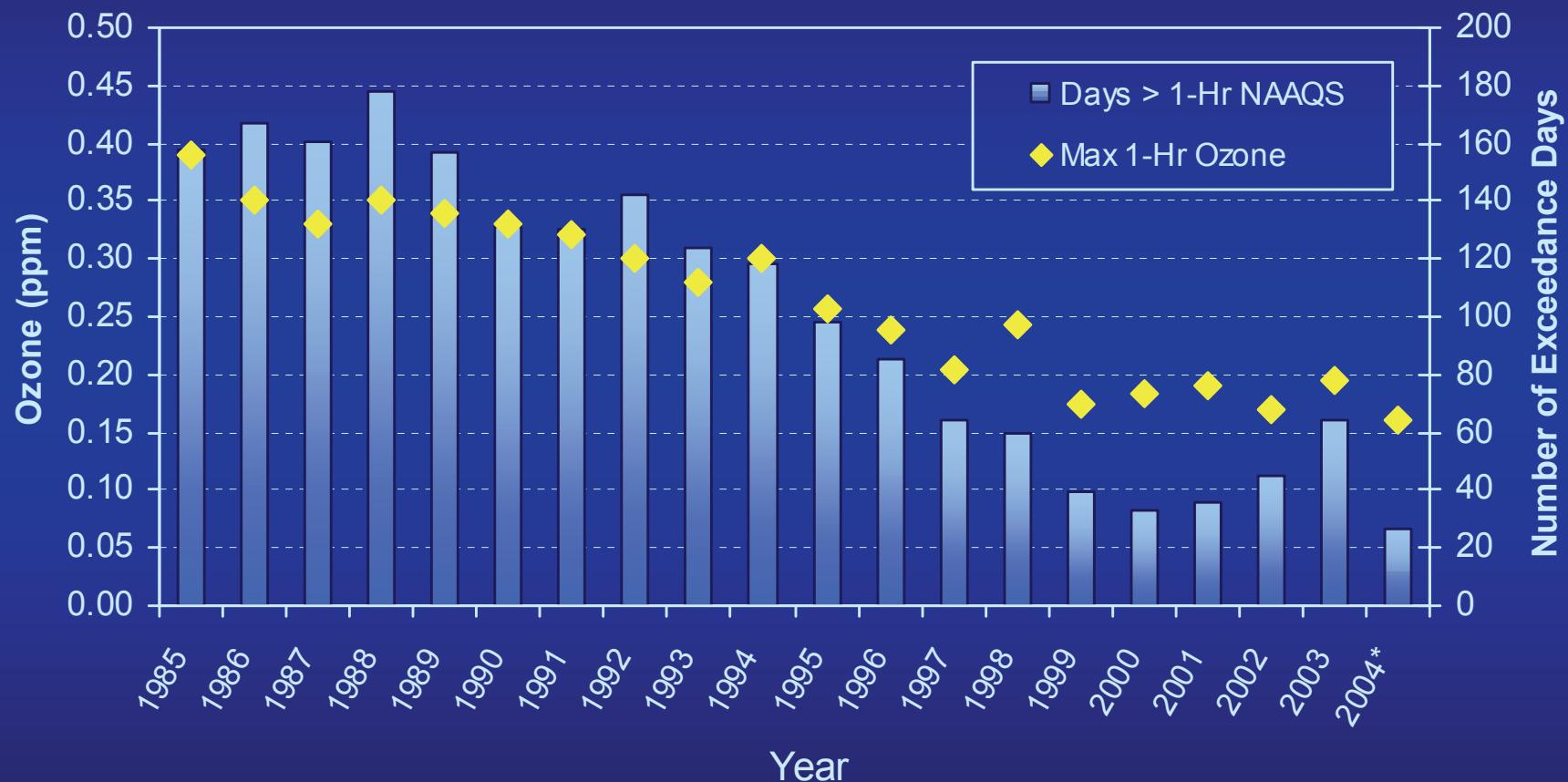
# ***SOUTH COAST***

# *South Coast - 2004*

## *Federal 1-Hour Ozone Standard*

- ◆ **2004 air quality consistent with historical downward trend**
- ◆ **Weather causes year-to-year changes**
  - 2003 extremely conducive to ozone formation
  - 2004 was average weather year
- ◆ **Concentrations on exceedance days declining since 1980**
  - 2004 had lowest peak levels (0.16 ppm)
  - 2004 had fewest 1-hour Federal exceedance days (27)

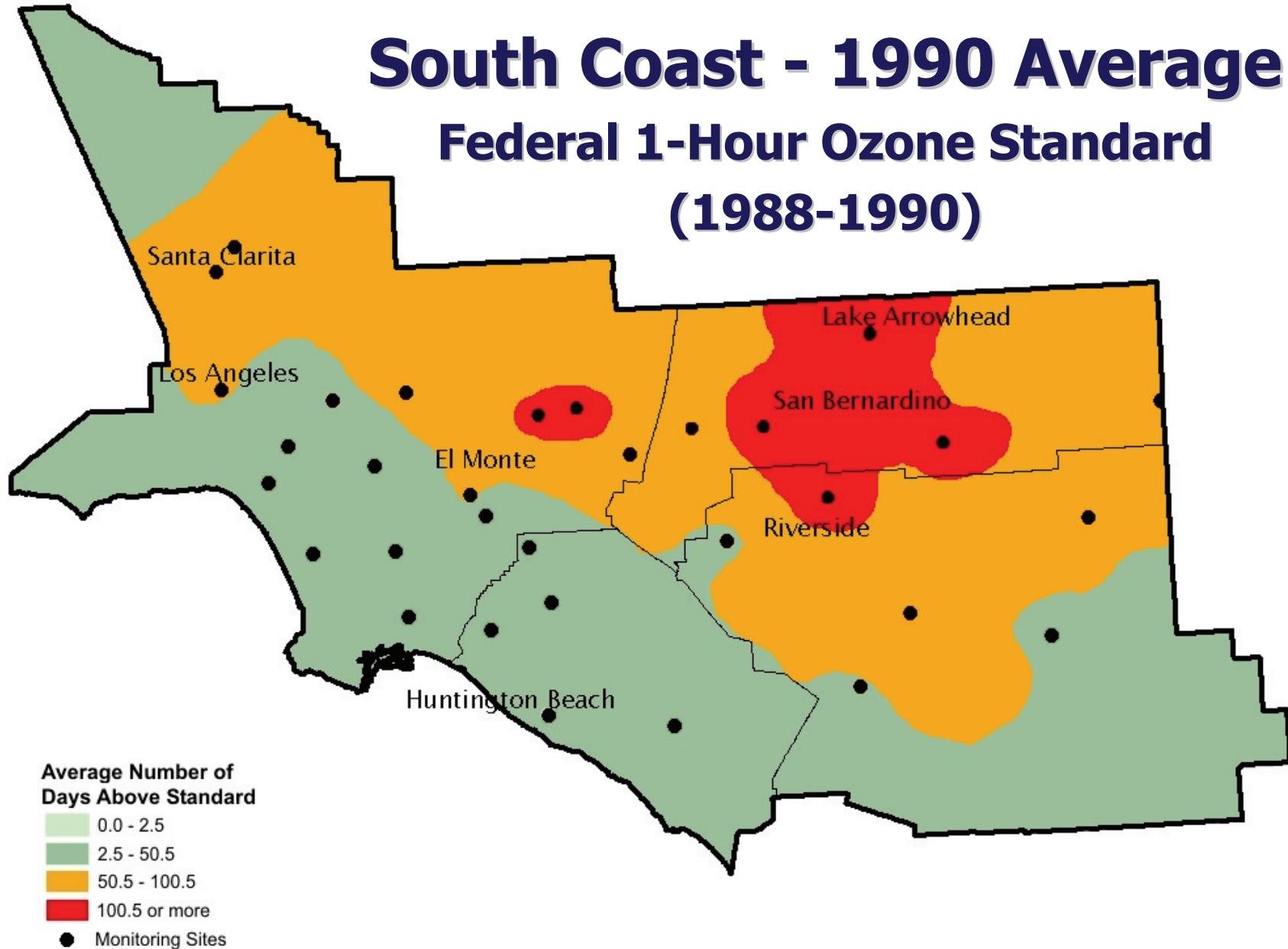
# *20-Year Trend in South Coast*



\*2004 values are preliminary and reflect data collected through November 30, 2004.

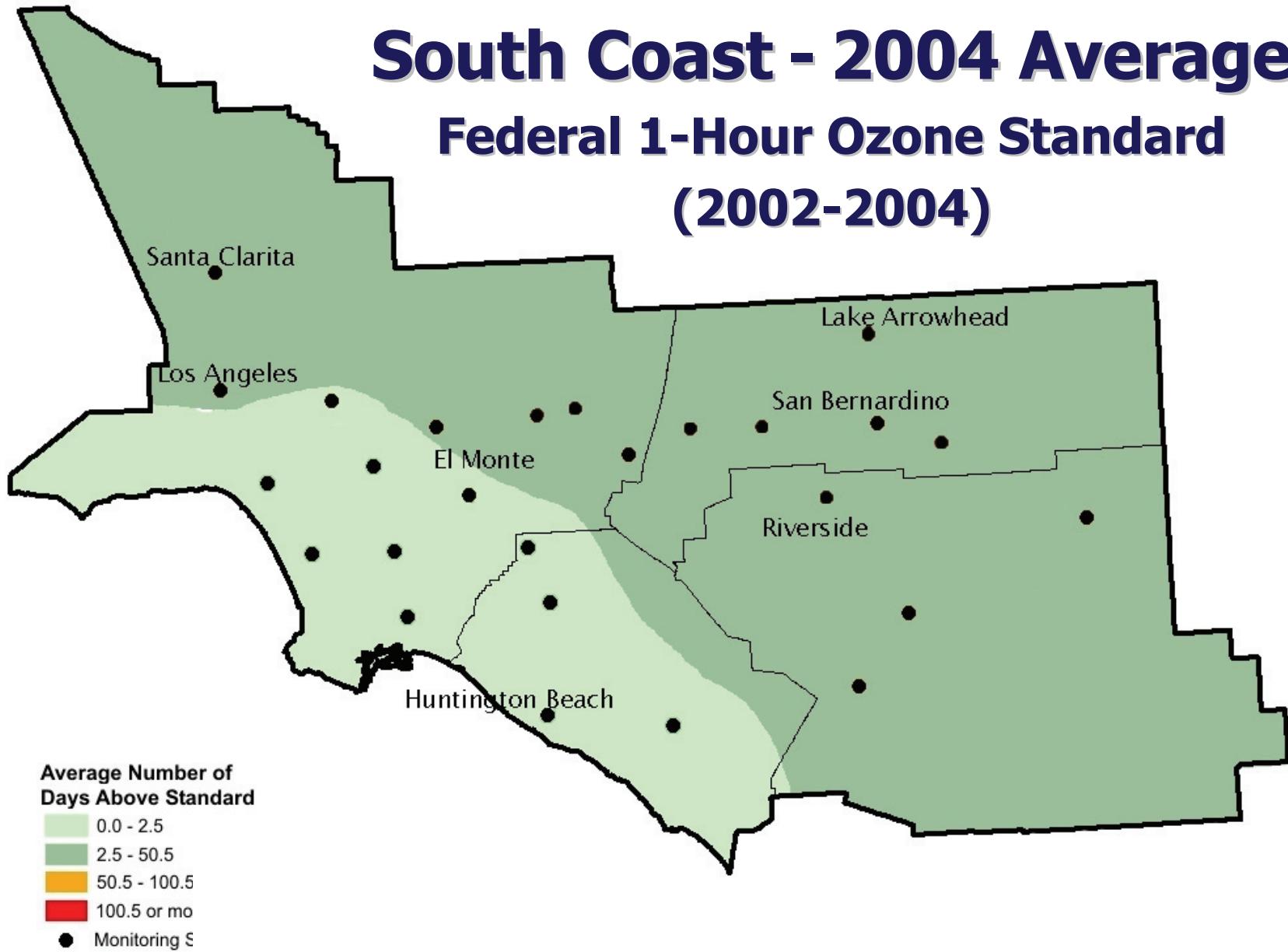
# South Coast - 1990 Average

## Federal 1-Hour Ozone Standard (1988-1990)



# South Coast - 2004 Average

## Federal 1-Hour Ozone Standard (2002-2004)



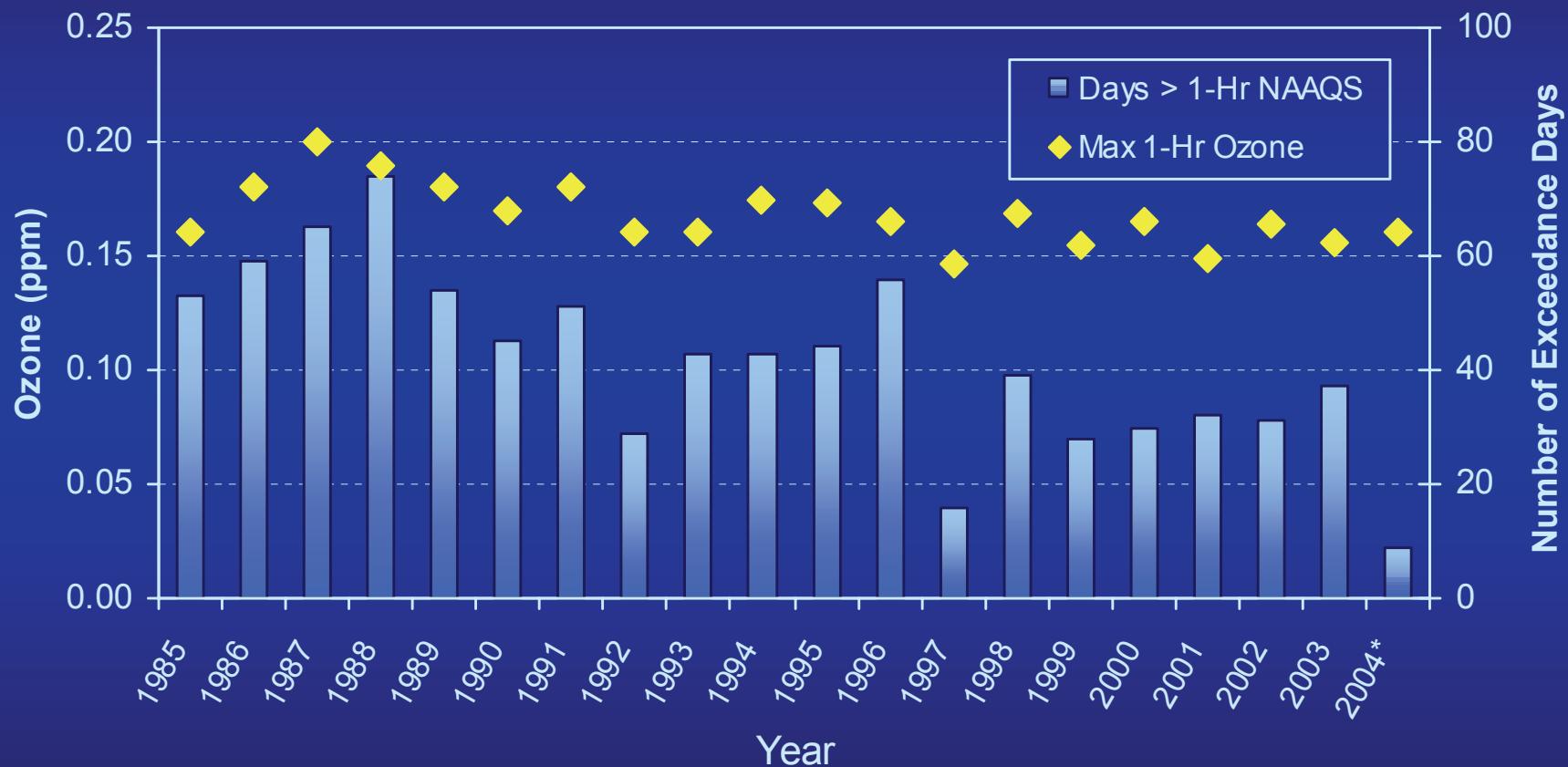
# ***SAN JOAQUIN VALLEY***

# *San Joaquin Valley - 2004*

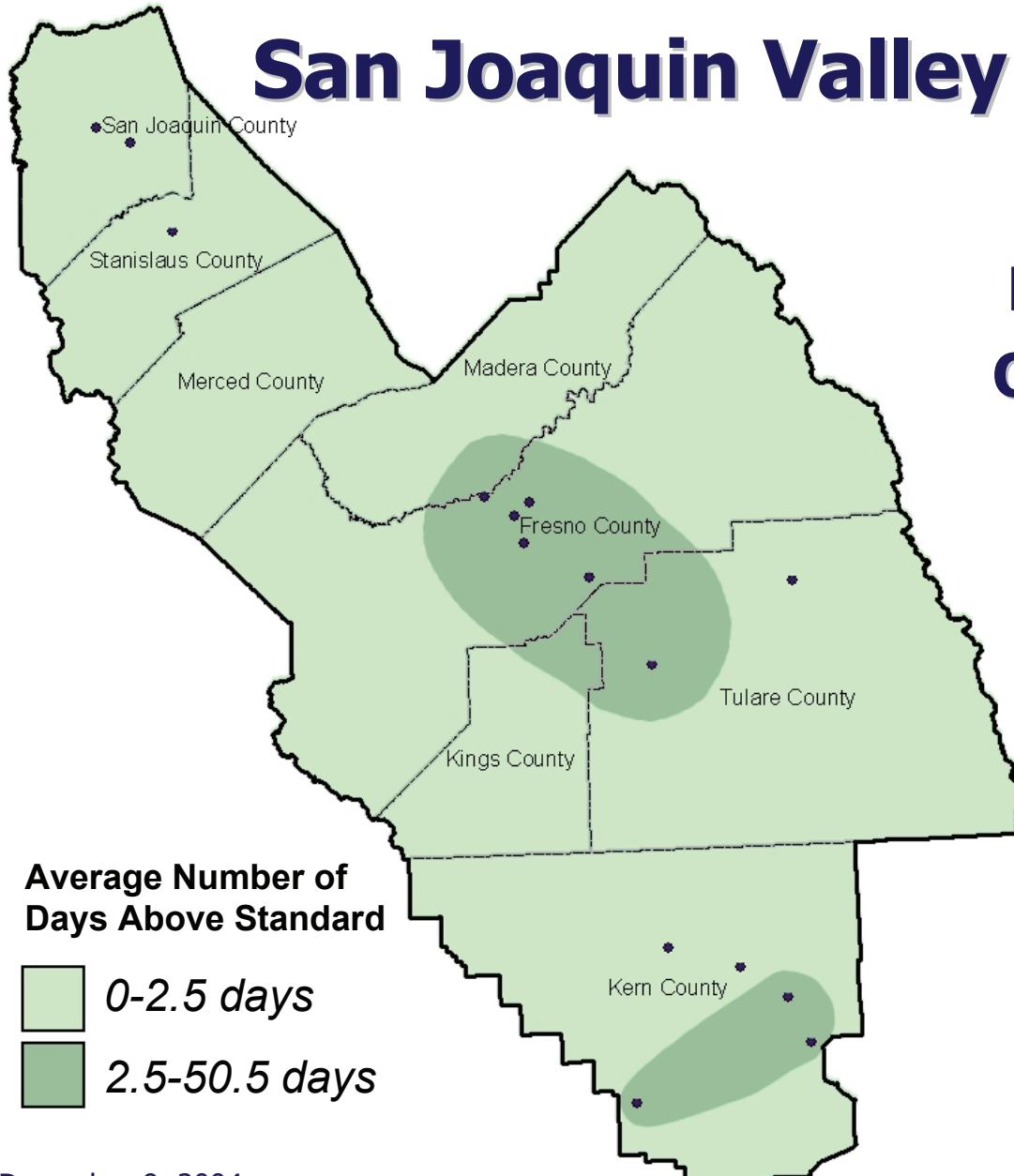
## *Federal 1-Hour Ozone Standard*

- ◆ **2004 weather slightly better than average**
  - 2002/2003: Multiple 2 to 6-day episodes
  - 2004: Only one 2-day episode
- ◆ **Fewer Federal 1-hour exceedance days in 2004 than during last 20 years**
- ◆ **2004 peak levels comparable with 2002 and 2003**
- ◆ **Exceedances not as widespread**

# *20-Year Trend in San Joaquin Valley*

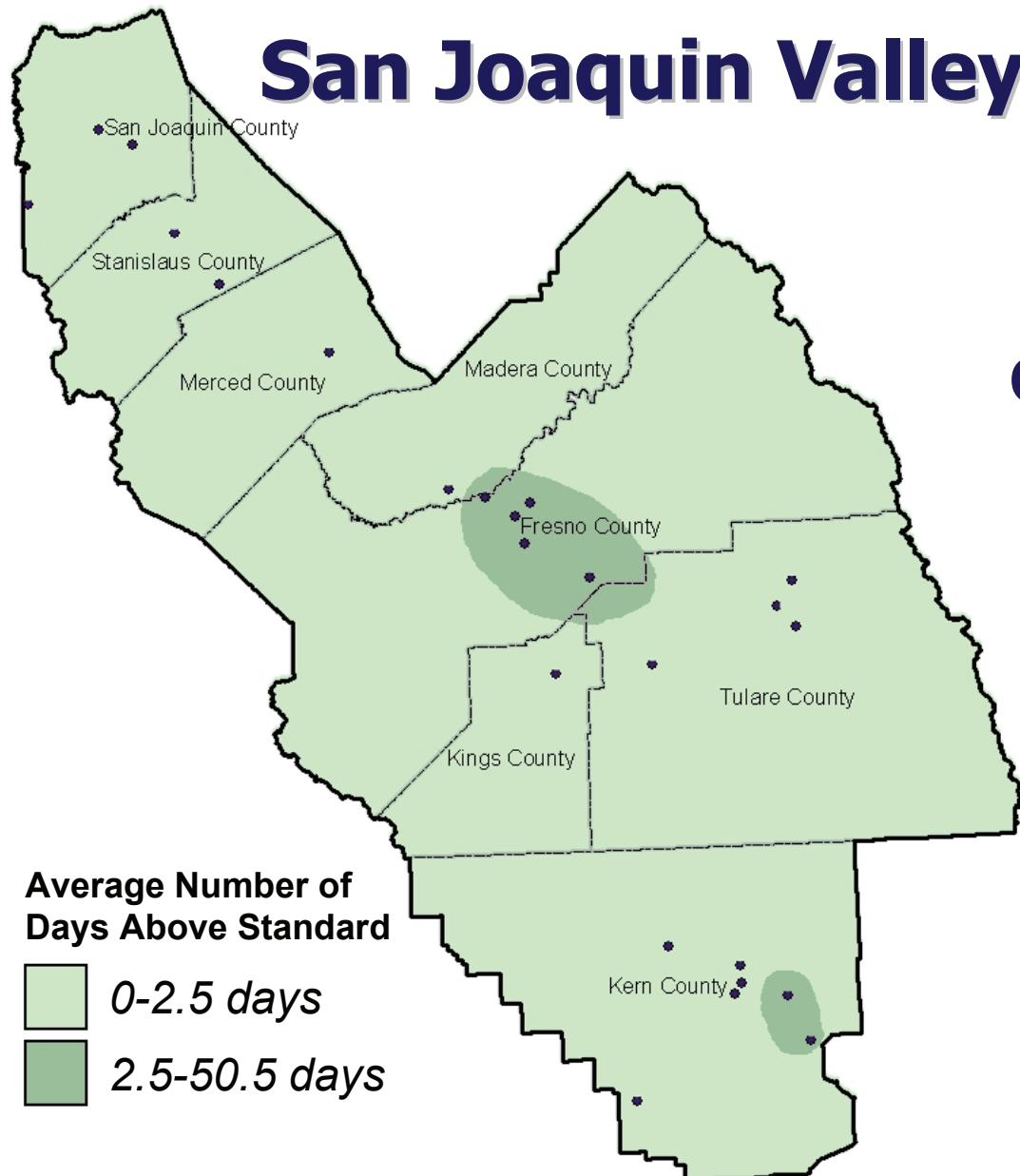


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# San Joaquin Valley - 1990 Average

**Federal 1-Hour  
Ozone Standard  
(1988-1990)**



# San Joaquin Valley - 2004 Average

**Federal 1-Hour  
Ozone Standard  
(2002-2004)**

Average Number of  
Days Above Standard



0-2.5 days



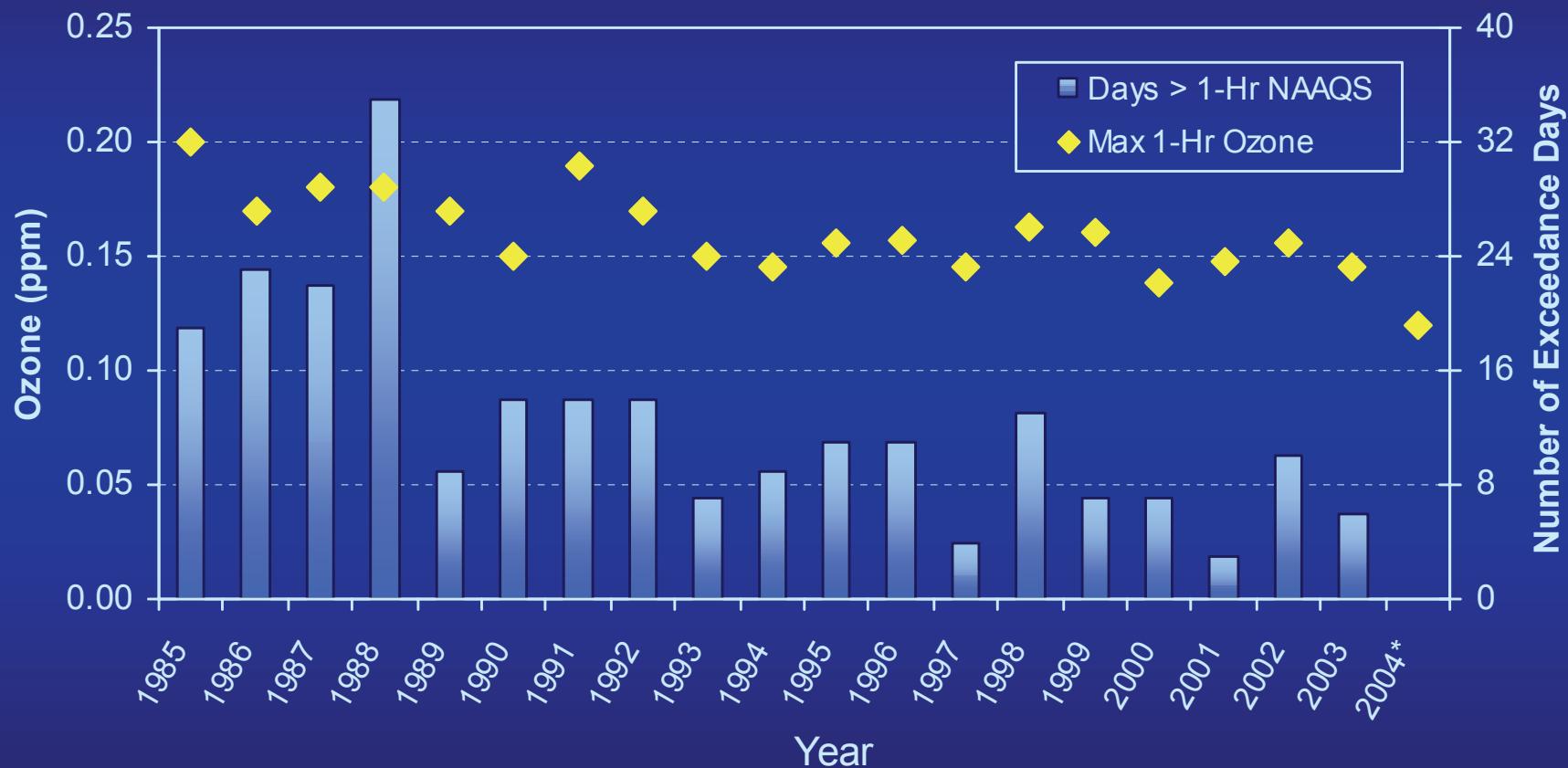
2.5-50.5 days

# ***SACRAMENTO REGION***

# *Sacramento Region - 2004 Federal 1-Hour Ozone Standard*

- ◆ **No exceedance days in 2004**
- ◆ **Lower peak levels**
  - 2004 peak at level of federal 1-hour standard (0.12 ppm)
- ◆ **2004 weather similar to 2002 and 2003**

# *20-Year Trend in Sacramento Region*



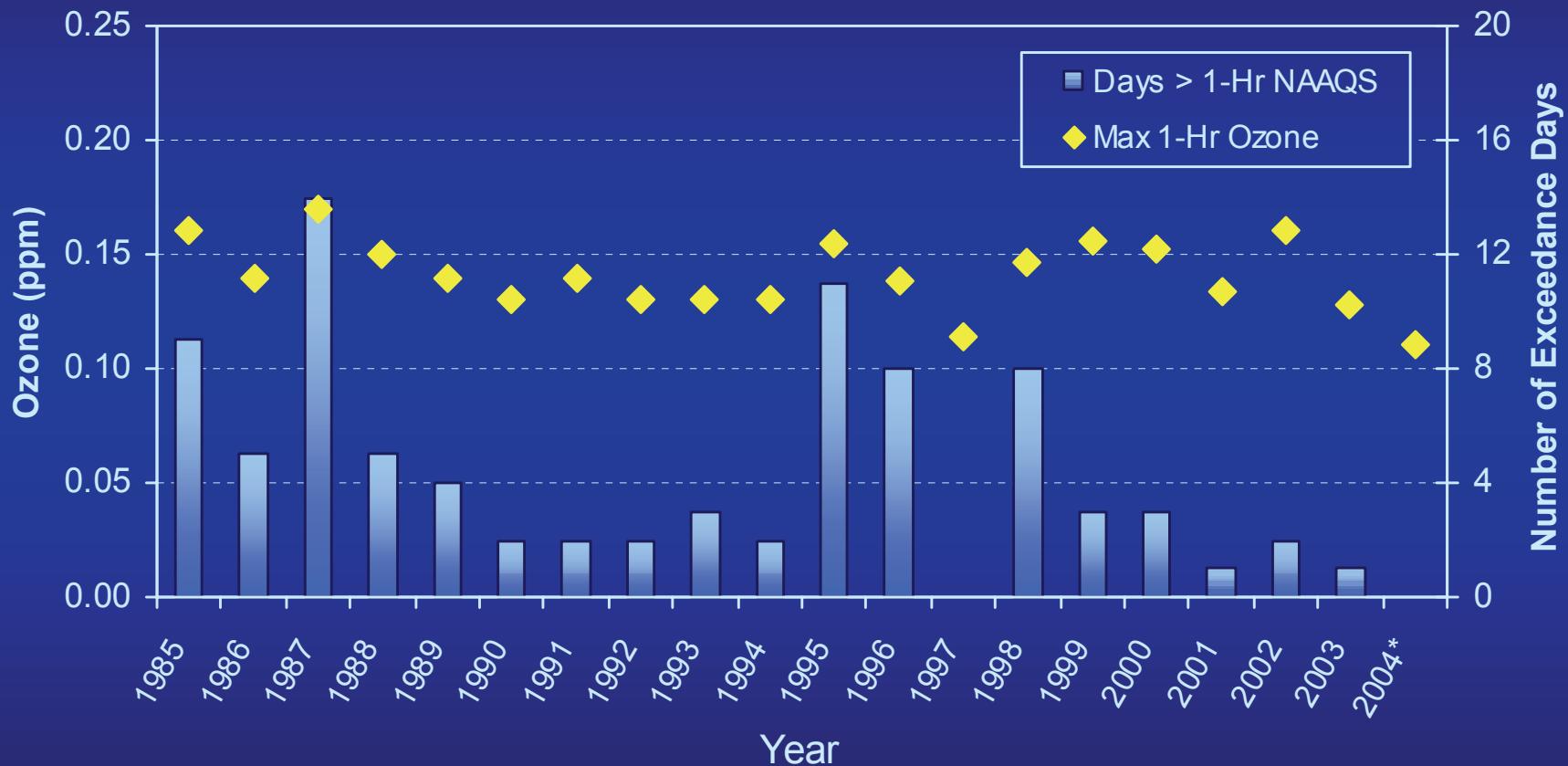
\*2004 values are preliminary and reflect data collected through November 30, 2004.

# ***SAN FRANCISCO BAY AREA***

## ***San Francisco Bay Area - 2004 Federal 1-Hour Ozone Standard***

- ◆ Attains 1-hour standard
  - No exceedances this year
- ◆ 2004 had fewer hot days & better mixing
- ◆ Weather impacts more noticeable for areas that are close to the standard

# *20-Year Trend in SF Bay Area*



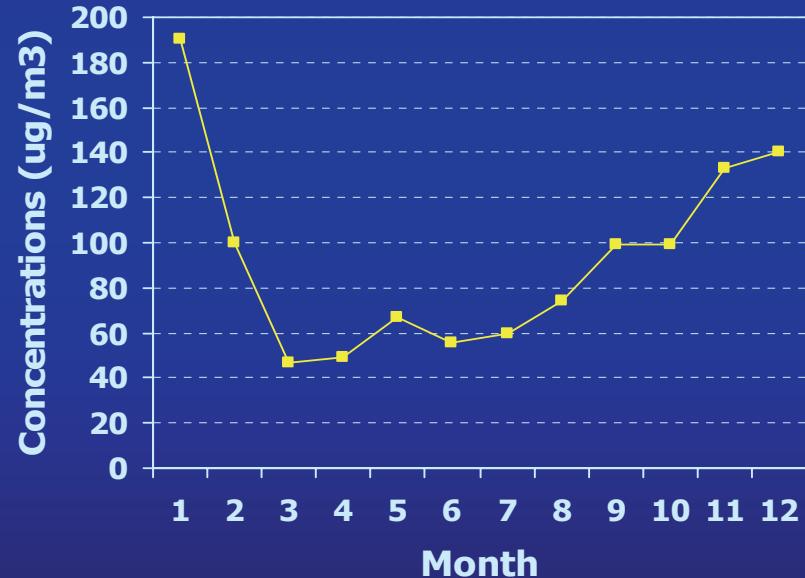
\*2004 values are preliminary and reflect data collected through November 30, 2004.

***2004  
PARTICULATE MATTER  
AIR QUALITY  
Federal PM10 Standards***

# *Complexity of PM10*

- ◆ Different seasonal patterns than ozone
- ◆ Annual and 24-hour standards
- ◆ Less frequent sampling
- ◆ Multiple weather scenarios

Bakersfield Monthly Peak PM10



# ***Factors Affecting PM10***

- ◆ **Weather conditions**
  - Windblown dust events
  - Atmospheric stagnation
- ◆ **Enhanced activities on holidays**
- ◆ **Natural events such as wildfires**

## ***Characterizing Current PM10 Air Quality***

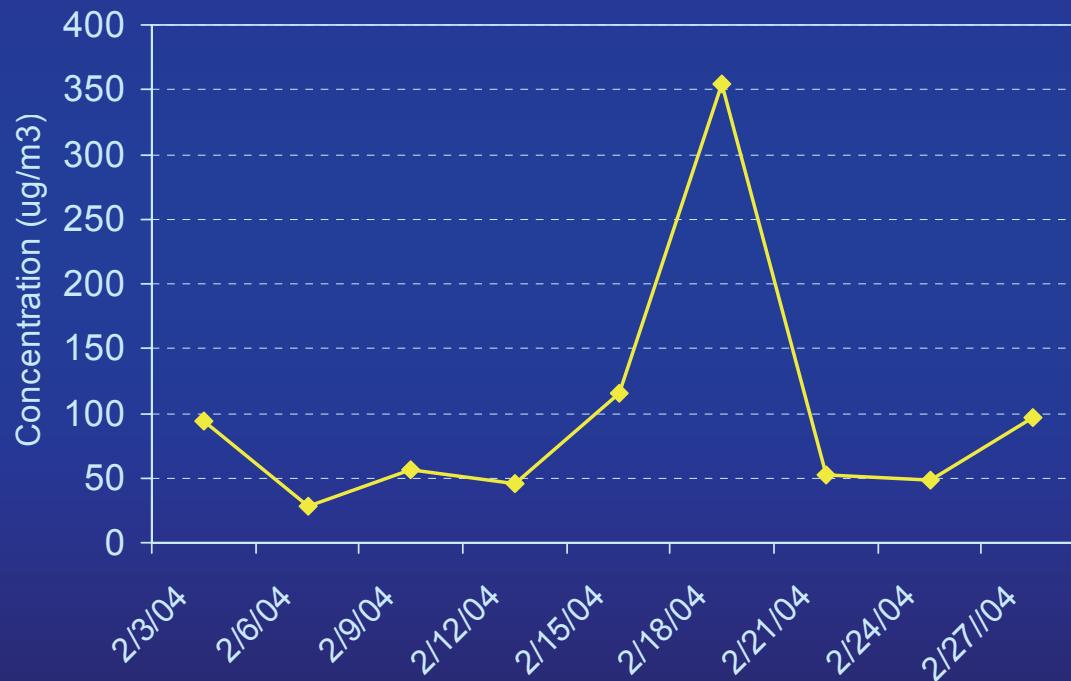
- ◆ More difficult to compare regions and years than ozone
- ◆ Most recent complete data represents July 2003 - June 2004
- ◆ Move toward continuous sampling will improve understanding of PM problem

# ***Statewide 2003/2004 PM10 Air Quality***

- ◆ **Peak concentrations**
  - A few areas continue to have fugitive dust problems
  - Urban areas rarely exceed 24-hour standard
- ◆ **Further progress toward attaining the annual standard**

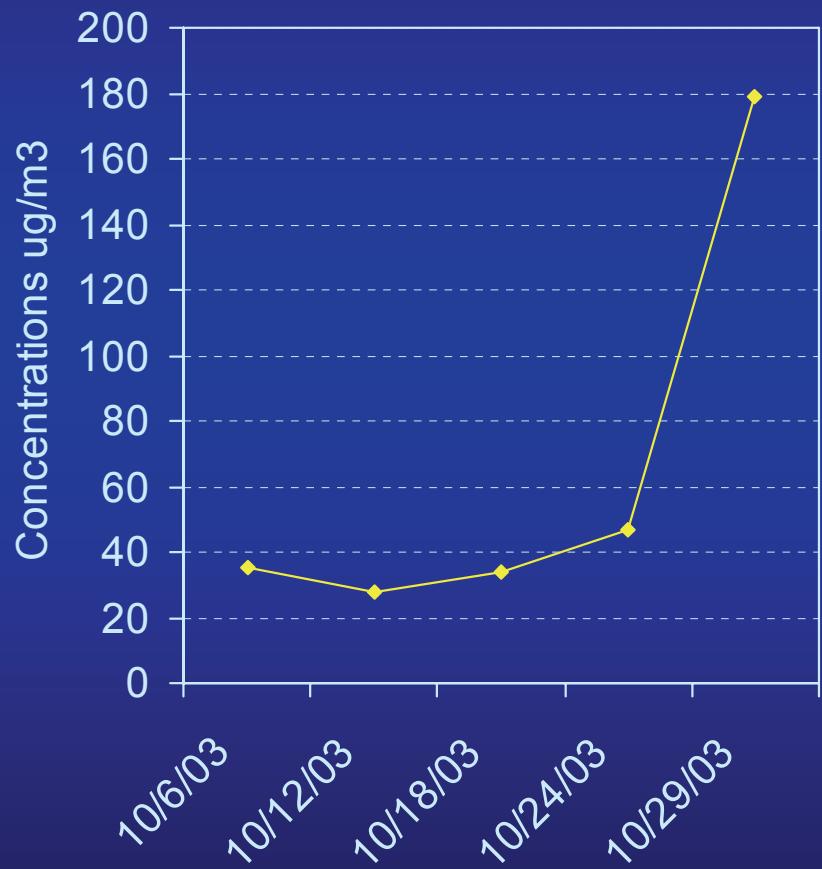
# *Dust Storms Impacts on PM10*

## *Imperial County, February 2004*

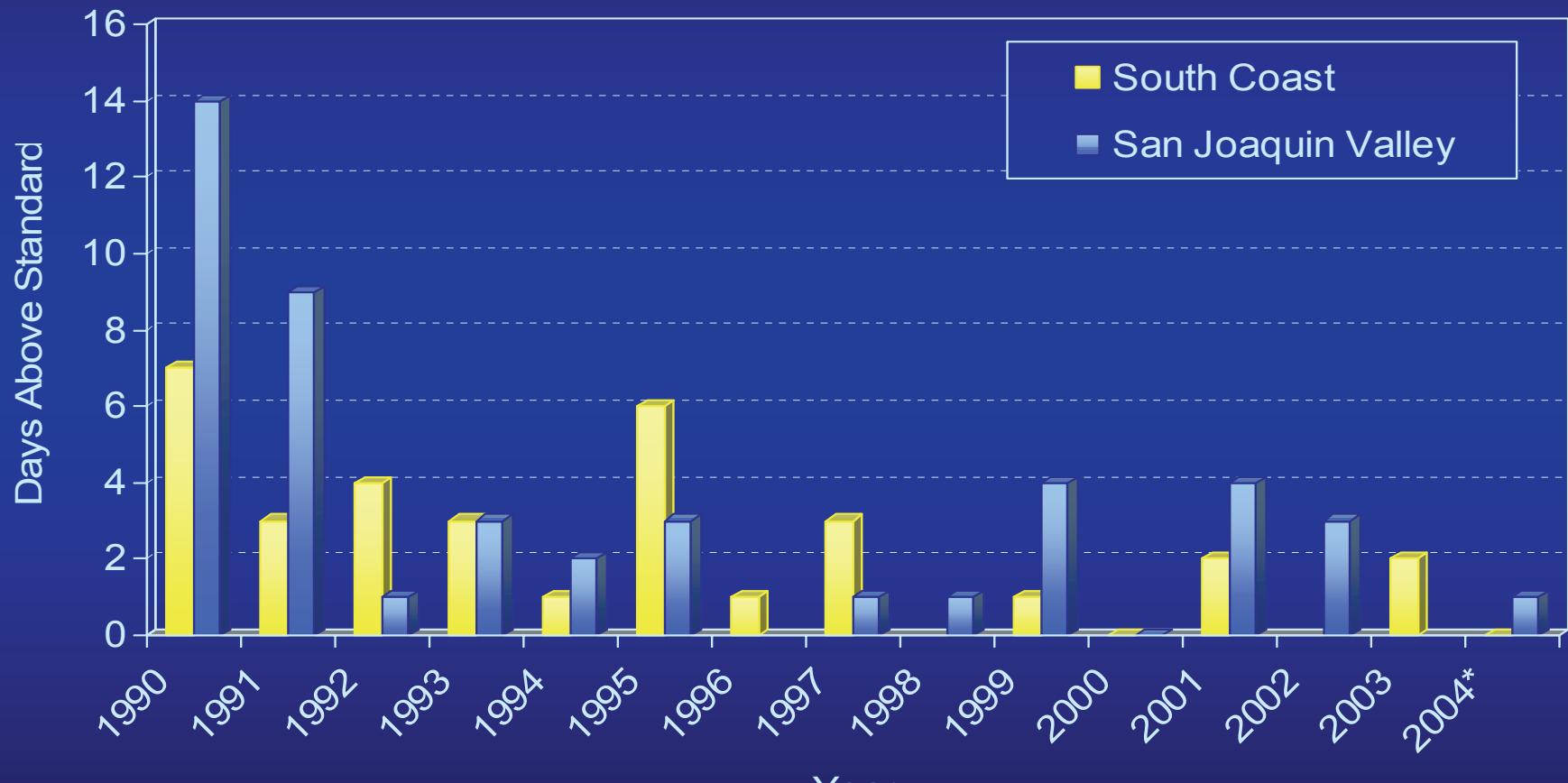


# *Wildfire Impacts on PM10*

## *Escondido, October 2003*



# *Progress Toward Attaining Federal 24-Hr PM10 Standard*



\* 2004 data are preliminary to date.

# *Progress Toward Attaining Federal Annual PM10 Standard*

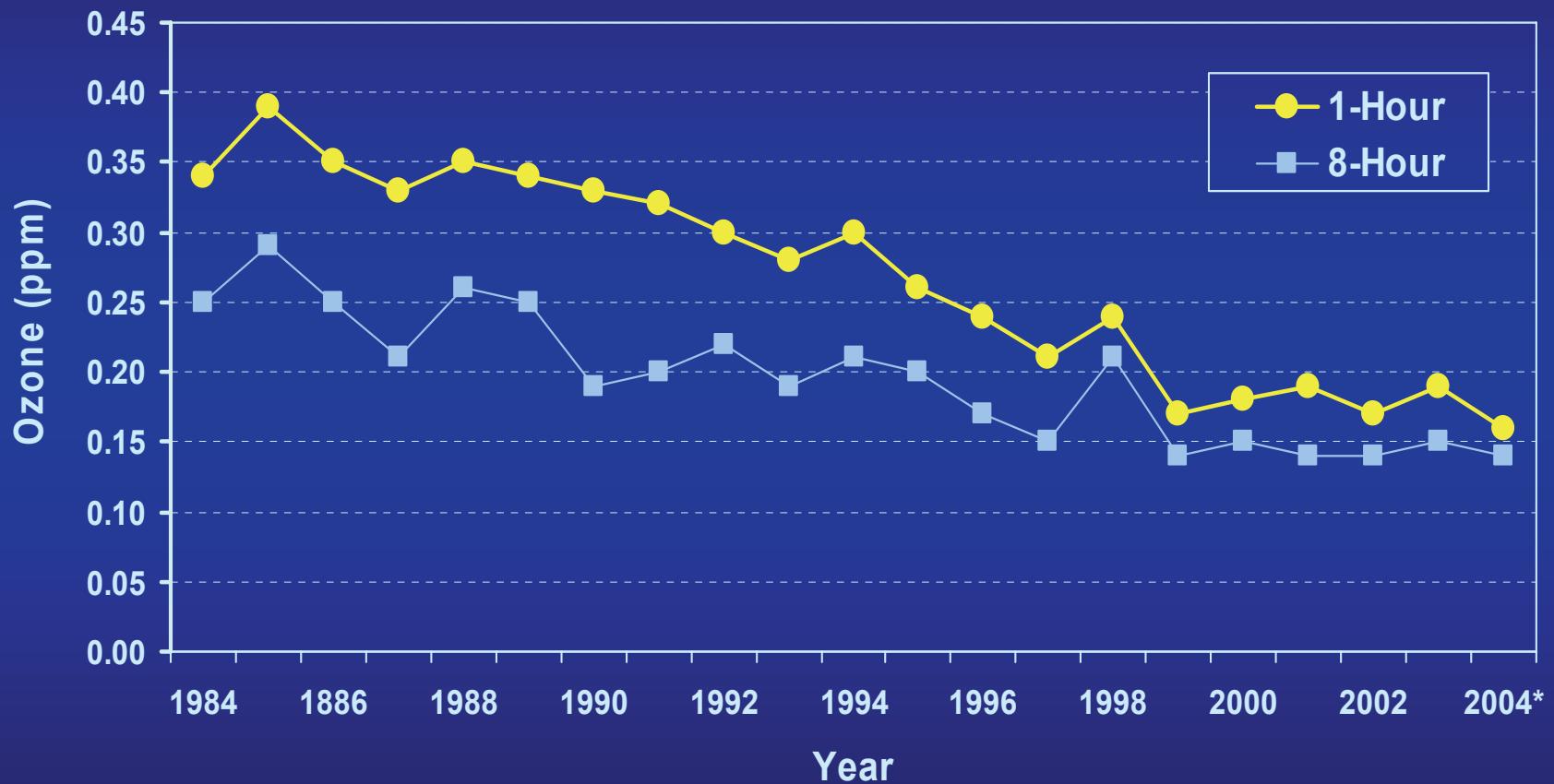


# ***TRANSITIONING TO NEW FEDERAL STANDARDS***

# *New Federal Ozone and PM2.5 Standards*

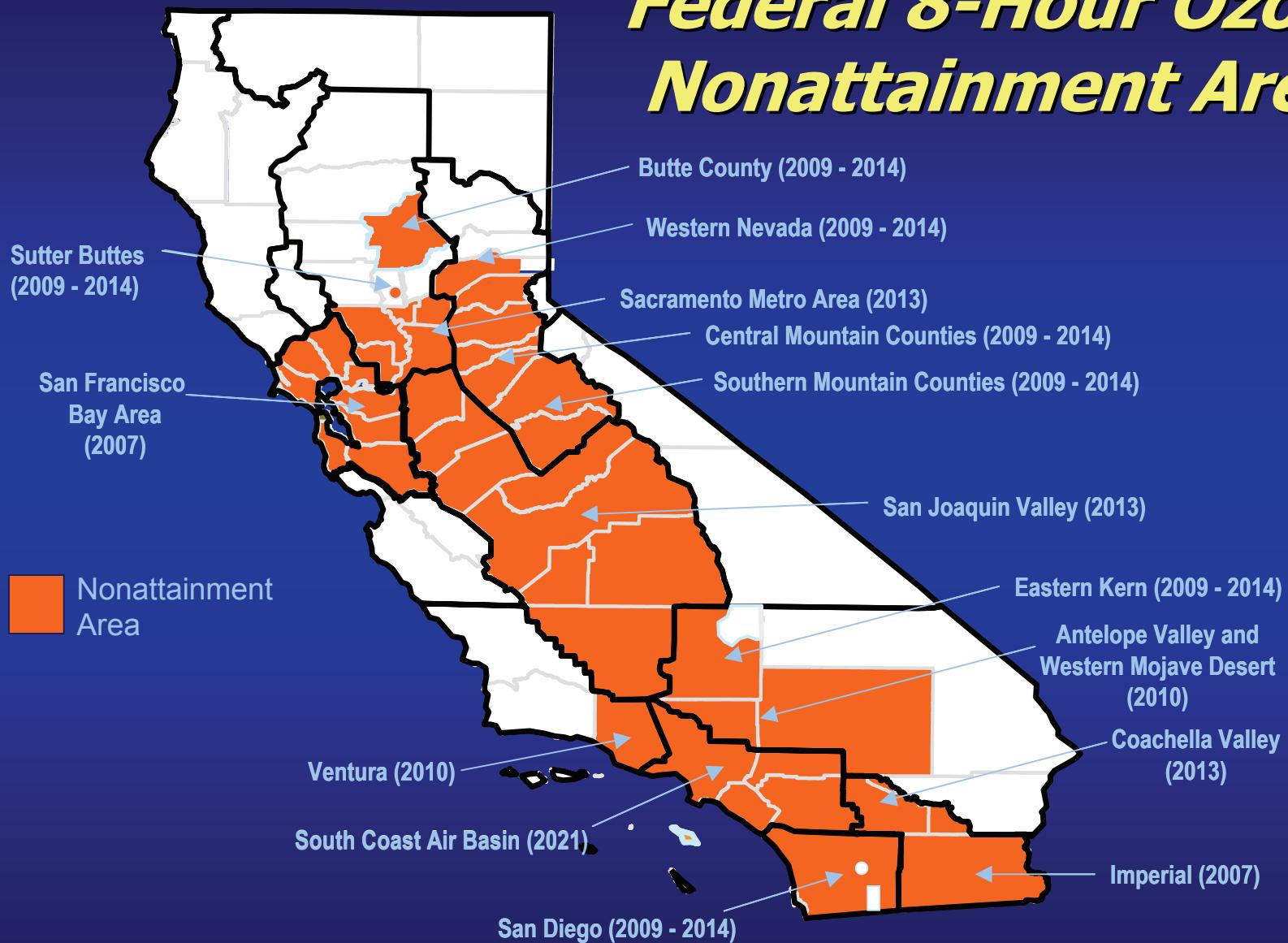
- ◆ 1-hour ozone standard revoked,  
effective June 2005
- ◆ 8-hour ozone SIPs due in 2007
- ◆ Expected PM2.5 designations by  
the end of this year
- ◆ PM2.5 plans due in 2008

# *South Coast Peak Ozone Levels*



\*2004 data are preliminary and reflect data collected through November 30, 2004.

# *Federal 8-Hour Ozone Nonattainment Areas*

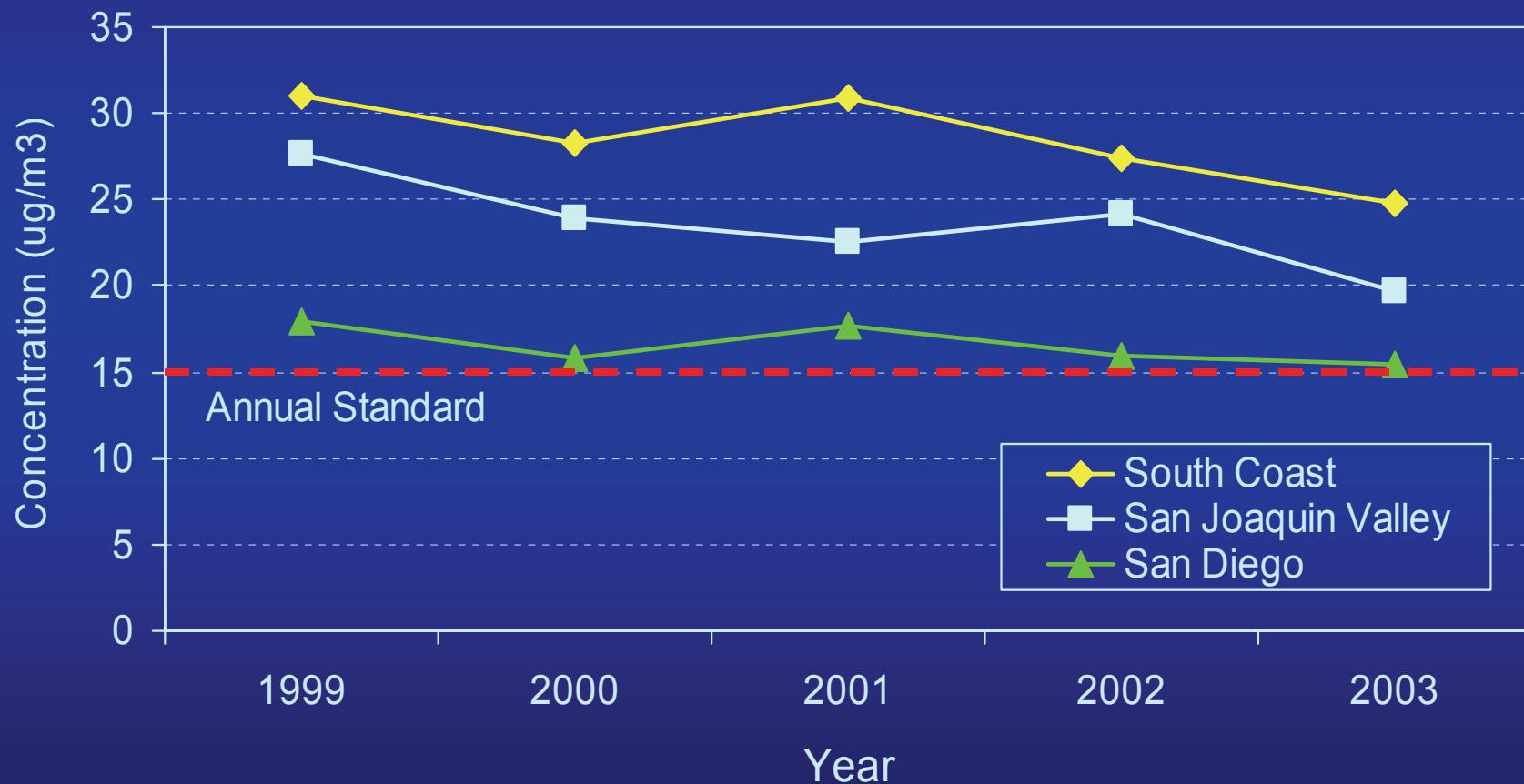


# *Expected Federal PM<sub>2.5</sub> Nonattainment Areas*



- San Joaquin Valley
- South Coast
- San Diego

# *Progress Toward Attaining Federal Annual PM<sub>2.5</sub> Standard*



# ***STATE STANDARDS***

# *Overview of State Standards*

- ◆ NO<sub>2</sub> standard attained statewide
- ◆ State CO standard violated only in localized area in Calexico
- ◆ Most areas exceed State PM10 and PM2.5 standards

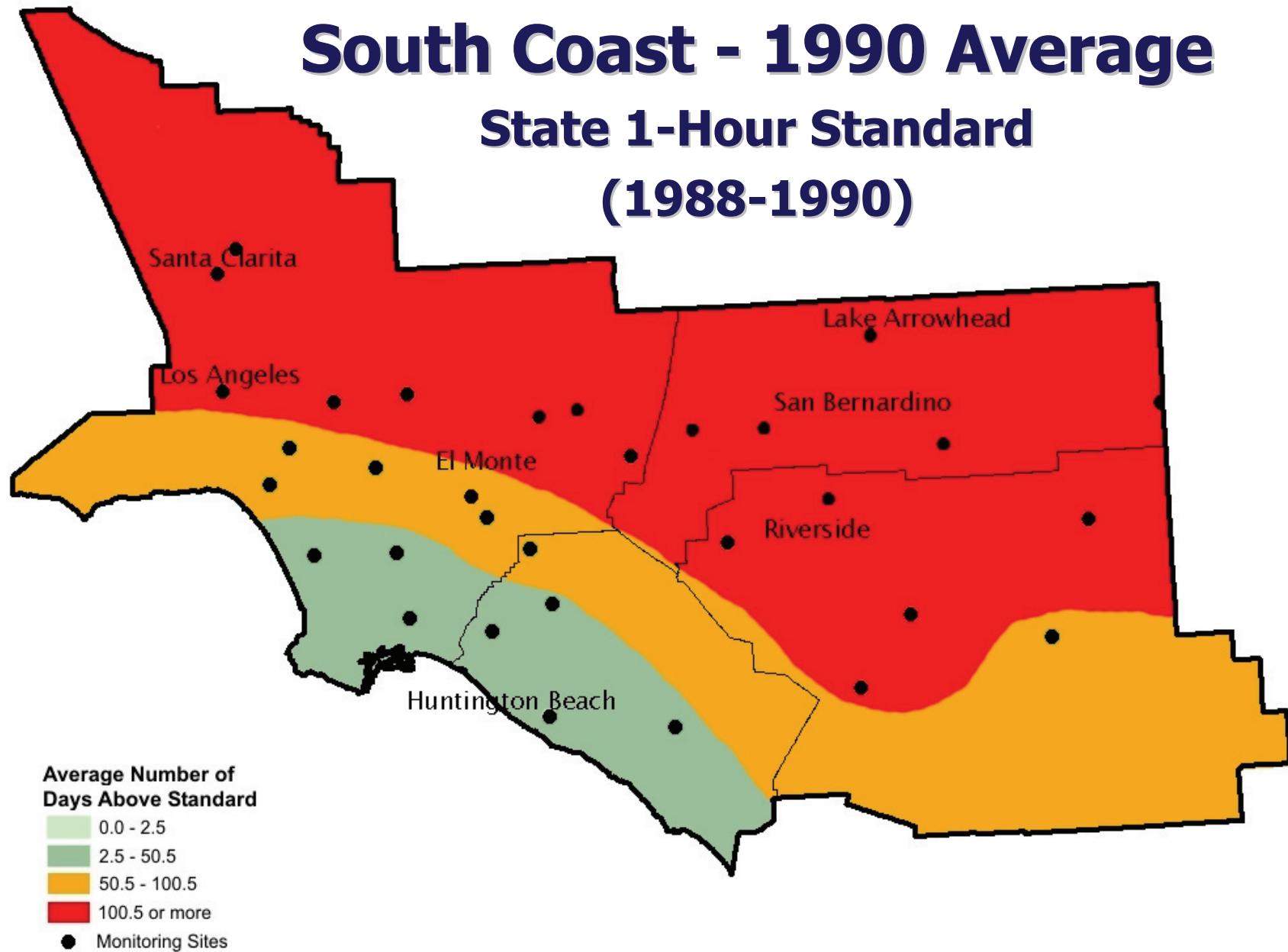
# ***STATE 1-HOUR OZONE STANDARD***

# *Overview of State 1-Hour Ozone Standard*

- ◆ Most urban areas exceed State ozone standard
- ◆ Limited number of attainment areas
  - Coastal areas
  - Rural areas
- ◆ Dramatic progress in South Coast over last 25 years

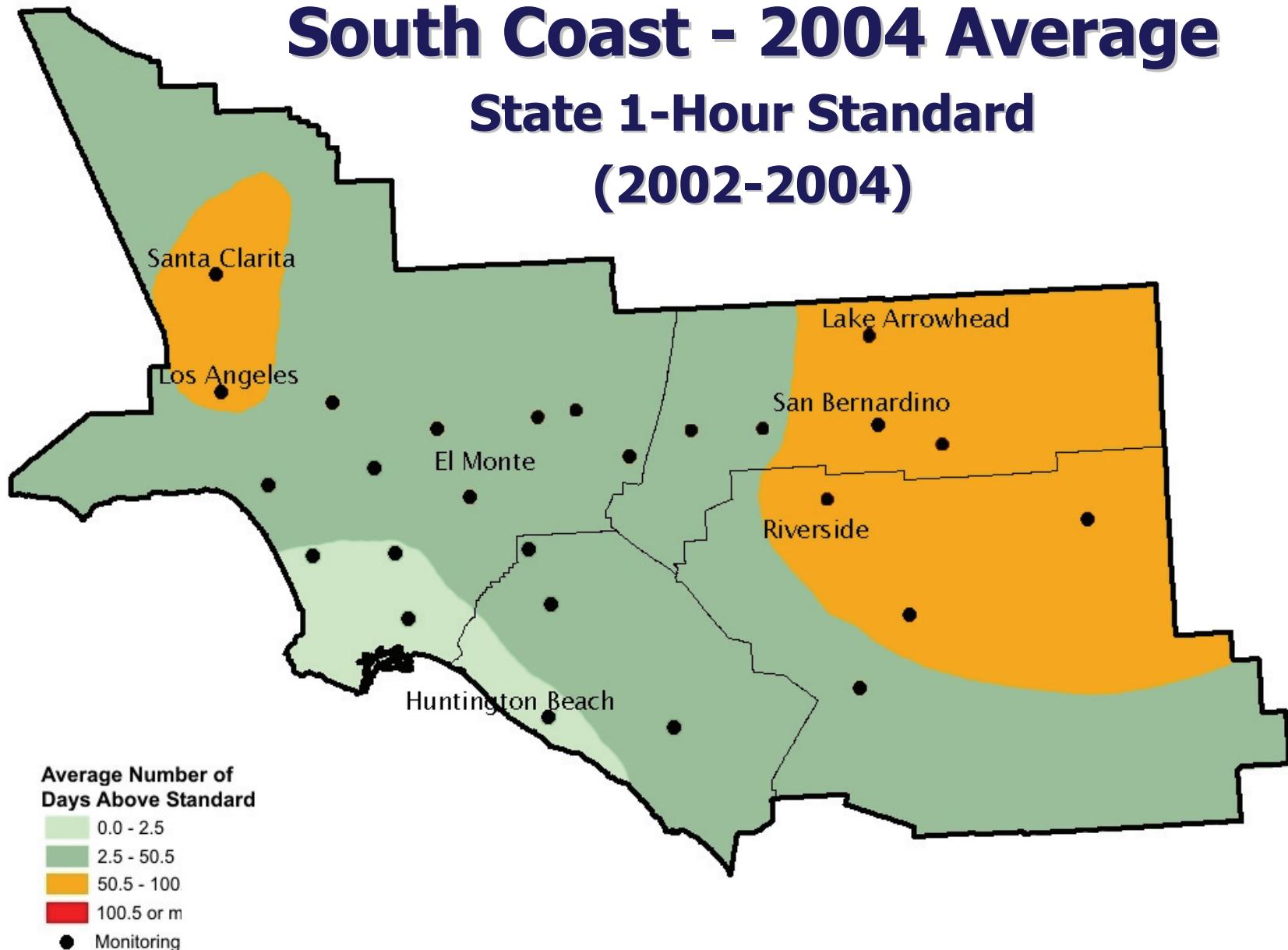
# South Coast - 1990 Average

## State 1-Hour Standard (1988-1990)



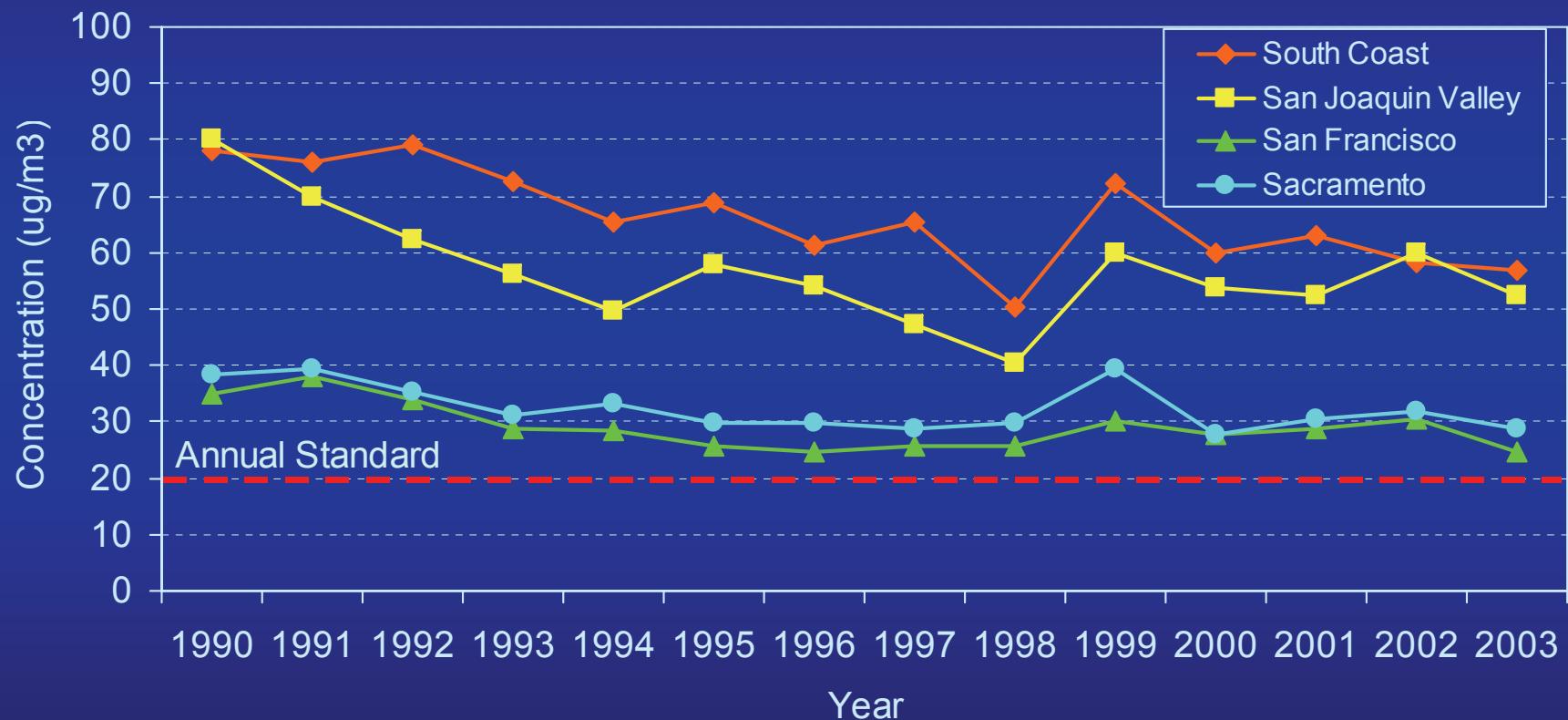
# South Coast - 2004 Average

## State 1-Hour Standard (2002-2004)

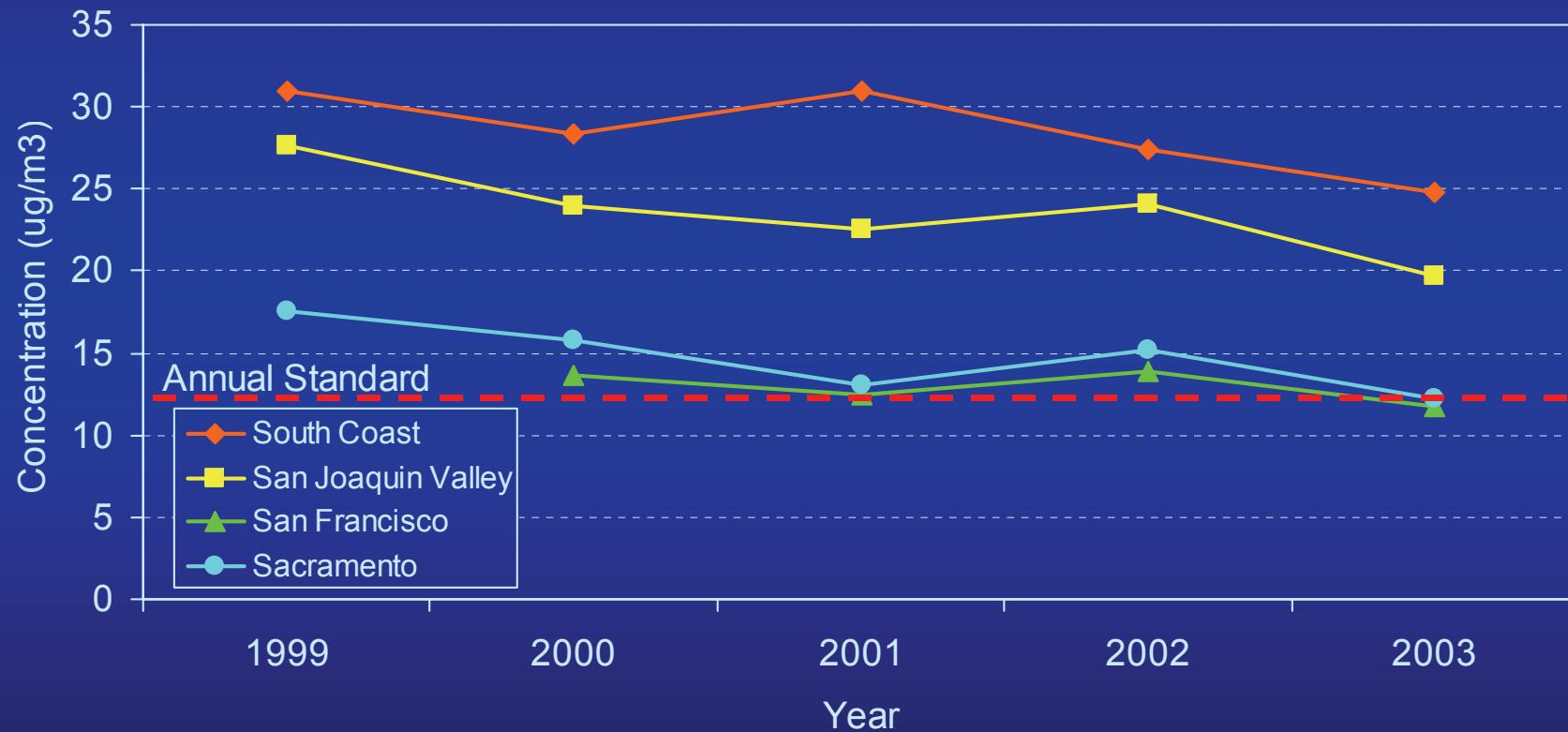


# ***STATE PM10 AND PM2.5 STANDARDS***

# *Progress Toward Attaining State Annual PM10 Standard*



# *Progress Toward Attaining State Annual PM2.5 Standard*



# ***Summary***

- ◆ **2004 ozone air quality improved dramatically compared to 2003 which was extremely conducive to ozone formation**
- ◆ **The average weather conditions in 2004 produced improved air quality compared to average years in the past**
- ◆ **Long-term trend shows improvement**